

# **An Empirical Study of Refactoring, New Design, and Error-Fix Efforts in Extreme Programming**

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## **ABSTRACT**

Extreme Programming (XP) was introduced as a new process model, which has three main activities in each XP iteration cycle: new design, error-fix, and refactoring. In an empirical study on two Java systems developed using an XP-like process, we found that new design seems to dominate the development effort throughout all iteration cycles. We also found that the evolutionary trends of all three activities agree with exceptions.